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April 8, 2004

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Re: Serial No.: 10/717,742  
Drill Bit Having an Improved Seal and Lubrication Method Using Same  
Our File: 1301-1160

Dear Sir:

Enclosed for filing please find the following items relating to the above-identified application:

- (1) Information Disclosure Statement;
- (2) Form PTO/SB/08A (with references);
- (3) Form PTO/SB/08B (with references); and
- (4) Postcard.

Please file the above and return the date-stamped postcard to our office at the address listed above. In the meantime, if you have any questions or comments concerning this matter, please call the undersigned at your earliest convenience. Otherwise, please accept the enclosed.

Sincerely,

Lawrence R. Youst  
Reg. No. 38,795

Enclosures

Date of Deposit: April 8, 2004  
CERTIFICATE OF MAILING BY FIRST CLASS MAIL:  
I hereby certify that this correspondence is being deposited with the United States  
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Patents, P.O. Box 1450, Alexandria, VA 22313-1450

  
Lawrence R. Youst



Attorney Docket No.: 1301-1160  
Halliburton Docket No.: 2003-IP-012299 U1 USA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application: Thomas Wayne Ray et al.  
Serial No. 10/717,742  
Filed: November 20, 2003  
Art Unit: 3672  
Examiner: Unassigned  
For: Drill Bit Having an Improved Seal and Lubrication Method Using Same

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

As listed on the accompanying form PTO/SB/08A and form PTO/SB/08B and in accordance with the waiver of 37 C.F.R. §1.98(a)(2), the indicated references are submitted which applicant believes may be material to the examination of the above-identified application, and in respect of which there may be a duty to disclose in accordance with 37 CFR §1.56.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made, an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists. Further, the filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Written notification that the enclosed references have been considered in their entirety by return of a copy of the enclosed form, completed by the Examiner, is respectfully requested.

IDENTIFICATION OF TIME OF FILING THE  
INFORMATION DISCLOSURE STATEMENT

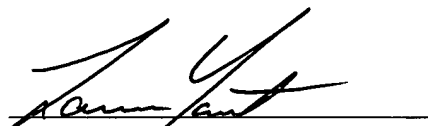
- ☒ [X] This Information Disclosure Statement is being filed within three months of the filing date of the national application other than a continued prosecution application under §1.53(d) or within three months of the date of entry of the national stage as set forth in §1.491 in an international application or before the mailing date of a first Office Action on the merits or before the mailing of a first Office Action after the filing of a request for continued examination under §1.114. (37 CFR §1.97(b)).

FEE PAYMENT

- ☐ attached is a check in the amount of \$180.00
- ☐ charge Deposit Account No. 03-1130 \$180.00
- ☒ Applicant believes no additional fees are due for the filing of this IDS. However, if any additional fees are due, or any overpayments have been made, please charge, or credit, Deposit Account No. 03-1130.

Dated this 8th day of April, 2004.

Respectfully Submitted,



Lawrence R. Youst  
Attorney for Applicant and Assignee  
Registration No.: 38,795

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PTO/SB/08A (02-03)

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	10/717,742
Filing Date	November 20, 2003
First Named Inventor	Thomas Wayne Ray et al.
Art Unit	3672
Examiner Name	Unassigned
Attorney Docket Number	1301-1160

Sheet 1 of 2

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 5,169,887	12-08-1992	Snow et al.	
		US- 5,385,984	01-31-1995	Blohm et al.	
		US- 5,552,469	09-03-1996	Beall et al.	
		US- 5,578,672	11-26-1996	Beall et al.	
		US- 5,698,624	12-16-1997	Beall et al.	
		US- 5,721,306	02-24-1998	Tsipursky et al.	
		US- 5,760,121	06-02-1998	Beall et al.	
		US- 5,804,613	09-08-1998	Beall et al.	
		US- 5,830,528	11-03-1998	Beall et al.	
		US- 5,844,032	12-01-1998	Serrano et al.	
		US- 5,849,830	12-15-1998	Tsipursky et al.	
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		US- 6,034,164	03-07-2000	Elspass et al.	
		US- 6,050,509	04-18-2000	Clarey et al.	
		US- 6,057,396	05-02-2000	Lan et al.	
		US- 6,083,559	07-04-2000	Beall et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
		EP 1 211 282 A1	06-05-2002	Herrmann et al.		
		DE 100 59 237 A1	06-20-2002	Herrmann et al.		
		WO 02/079308 A1	10-10-2002	Bremser et al.		

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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Application Number	10/717,742
Filing Date	November 20, 2003
First Named Inventor	Thomas Wayne Ray et al.
Art Unit	3672
Examiner Name	Unassigned
Attorney Docket Number	1301-1160

Sheet 2 of 2**U. S. PATENT DOCUMENTS**

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		US- 6,090,734	07-18-2000	Tsipursky et al.	
		US- 6,107,387	08-22-2000	Kaylo et al.	
		US- 6,124,365	09-26-2000	Lan et al.	
		US- 6,126,734	10-03-2000	Beall et al.	
		US- 6,225,394	05-01-2001	Lan et al.	
		US- 6,228,903	05-08-2001	Beall et al.	
		US- 6,232,388	05-15-2001	Lan et al.	
		US- 6,235,533	05-22-2001	Tsipursky et al.	
		US- 6,242,500	06-05-2001	Lan et al.	
		US- 6,251,980	06-26-2001	Lan et al.	
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		US- 6,362,279	03-26-2002	Lichtenhan et al.	
		US- 6,399,690	06-04-2002	Lan et al.	
		US- 6,376,591	04-23-2002	Lan et al.	
		US- 6,387,996	05-14-2002	Lan et al.	
		US- 6,391,449	05-21-2002	Lan et al.	
		US- 6,407,155	06-18-2002	Qian et al.	
		US- 6,461,423	10-08-2002	Beall et al.	
		US- 6,462,122	10-08-2002	Qian et al.	

**FOREIGN PATENT DOCUMENTS**

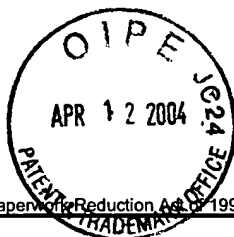
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		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

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Application Number	10/717,742
Filing Date	November 20, 2003
First Named Inventor	Thomas Wayne Ray et al.
Art Unit	3672
Examiner Name	Unassigned
Attorney Docket Number	1301-1160

Sheet 1 of 11

**OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		BUC SLAY et al.; "What Engineers Need to Know About Seals and Sealing Technology"; Energy Rubber Group - 2003 Fall Technical Symposium; September 16, 2003; pages 1-24.	
		ALEXANDER GALEZEWSKI et al.; "Thermosetting Cellular Elastomers Reinforced with Carbon Black and Silica Nanoparticles"; Journal of Elastomers and Plastics; Vol. 33; January 2001; pages 13-33.	
		"Polymer Preprints"; Division of Polymer Chemistry, Inc.; American Chemical Society; Volume 42, Number 2; Fall 2001; pages 885-886.	
		MICHELE VACATELLO; "Molecular Arrangements in Polymer-Based Nanocomposites"; Macromol Theory Simul. 2002, 11, No. 7; pages 757-765.	
		"Nanomaterials - A Big Market Potential"; Chemical Week; October 16, 2002; pages 17-20.	
		"Organic/Inorganic Hybrid Polymer/Clay Nanocomposites"; NASA Tech Briefs; December 2003; page 21.	
		Prof. E.P. GIANNELIS; "Polymer Nanocomposites"; Cornell University; page 1-2.	
		SIBY VARGHESE et al.; "Rubber Nanocomposites via Solutions and Melt Intercalation"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 43A; October 14-17, 2003; pages 1-24.	
		L.A. GOETTLER et al.; "Layered Silicate Nanocomposites Comprising Rubbery Polymer Matrices"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 41; October 14-17, 2003; 9 pages.	
		SUSMITA SADHU et al.; "Acrylonitrile Butadiene Rubber Based Nanocomposites: Preparation and Mechanical Properties"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 42; October 14-17, 2003; pages 1-12.	

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Sheet	2	of	11	Attorney Docket Number	1301-1160

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		ABHIJIT BANDYOPADHYAY et al.; "Synthesis and Characterization of Acrylic Rubber/Silica Nanocomposites by Sol-Gel Technique"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 43; October 14-17, 2003; pages 1-20.	
		LIMING DAI et al.; "Polymer and Aligned Carbon Nanotube Nanocomposites"; Presented at a meeting of the Rubber Division, American Chemical Society; Paper No. 39; October 14-17, 2003; pages 1-14.	
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		SHANNON M. LLOYD et al.; "Life Cycle Economic and Environmental Implications of Using Nanocomposites in Automobiles"; ACS Publications; April 28, 2003; pages 3458-3466.	
		SUPRAKAS SINHA RAY et al.; "New Polylactide/Layered Silicate Nanocomposites"; Macromolecules; January 15, 2002; pages 3104-3110.	
		BO-HYUN KIM et al.; "Nanocomposite of Polyaniline and Na <sup>+</sup> - Montmorillonite Clay"; Macromolecules; October 10, 2001; pages 1419-1423.	
		JOO YOUNG NAM et al.; "Crystallization Behavior and Morphology of Biodegradable Polylactide/Layered Silicate Nanocomposite"; ACS Publications; July 27, 2003; 1 page.	
		PETER C. LeBARON et al.; "Clay Nanolayer Reinforcement of a Silicone Elastomer"; ACS Publications; June 26, 2001; 1 page.	
		CHRISTOPHE DANUMAH et al.; "Novel Polymer Nanocomposites from Templated Mesoporous Inorganic Materials"; Macromolecules; April 14, 2003; pages 8208-8209.	
		HORNG-LONG TYAN et al.; "Thermally and Mechanically Enhanced Clay/Polyimide Nanocomposite via Reactive Organoclay"; ACS Publications; May 11, 1999; 1 page.	

Examiner Signature		Date Considered	
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		HORNG-LONG TYAN et al.; "Effect of Reactivity of Organics-Modified Montmorillonite on the Thermal and Mechanical Properties of Montmorillonite/Polyimide Nanocomposites"; ACS Publications; October 24, 2000; 1 page.	
		JEFFREY W. GILMAN et al.; "Flammability Properties of Polymer-Layered-Silicate Nanocomposites. Polypropylene and Polystyrene Nanocomposites"; ACS Publications; May 8, 2000; 2 pages.	
		JEFFREY W. GILMAN et al.; "Polymer/Layered Silicate Nanocomposites from Thermally Stable Trialkylimidazolium-Treated Montmorillonite"; ACS Publications; March 29, 2002; 1 page.	
		BENEDICTE LEPOITTEVIN et al.; "Poly ( -caprolactone)/Clay Nanocomposites by in-Situ Intercalative Polymerization Catalyzed by Dibutyltin Dimethoxide"; Macromolecules; August 2, 2002; pages 8385-8390.	
		PASCAL VIVILLE et al.; "Surface Characterization of Poly ( -caprolactone)-Based Nanocomposites"; Langmuir; July 14, 2003; pages 9425-9433.	
		BRET J. CHISHOLM et al.; "Nanocomposites Derived from Sulfonated Poly (butylene terephthalate)"; Macromolecules; December 21, 2001; pages 5508-5516.	
		J.E. MARK; "Some Recent Theory, Experiments, and Simulations on Rubberlike Elasticity"; ACS Publications; August 6, 2002; 1 page.	
		FRANCIS W. STARR et al.; "Molecular Dynamics Simulation of a Polymer Melt with a Nanoscopic Particle"; Macromolecules; December 3, 2001; pages 4481-4492.	
		YUQIN LI et al.; "A differential Scanning Calorimetry Study of the Assembly of Hexadecylamine Molecules in the Nanoscale Confined Space of Silicate Galleries"; ACS Publications; December 21, 2001; 1 page.	
		Q.H. ZENG et al.; "Molecular Dynamics Simulation of Organic-Inorganic Nanocomposites: Layering Behavior and Interlayer Structure of Organoclays"; ACS Publications; October 6, 2003; 1 page.	

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		S. JOLY et al.; "Organically Modified Layered Silicates as Reinforcing Fillers for Natural Rubber"; ACS Publications; June 14, 2002; 1 page.	
		CYNTHIA A. MITCHELL et al.; "Dispersion of Functionalized Carbon Nanotubes in Polystyrene"; Macromolecules; June 10, 2002; pages 8825-8830.	
		"Buckytube Properties & Uses"; Carbon Nanotechnologies Incorporated; 1 page.	
		"General Information About Nanomers"; Nanocor; 2 pages.	
		"Polymer Benefits"; Nanocor; 2 pages.	
		"Nanoclays for Plastics"; Elementis Specialties; 1 page.	
		"About Bentonite"; Laviosa Chimica Mineraria; 1 page.	
		"Carbon Nanotubes: A Small-Scale Wonder"; Newsfront; February 2003; 2 pages.	
		DANIEL T. COLBERT; "Single-wall nanotubes: a new option for conductive plastics and engineering polymers"; Plastics Additives & Compounding; January/February 2003; 7 pages.	
		TIE LAN et al.; "Applications of Nanomer in Nanocomposites: From Concept to Reality"; Nanocor; June 25-27, 2001; 10 pages.	

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		Filing Date	November 20, 2003
		First Named Inventor	Thomas Wayne Ray et al.
		Art Unit	3672
		Examiner Name	Unassigned
Sheet 5	of 11	Attorney Docket Number	1301-1160

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Sheet 7	of 11	Attorney Docket Number 1301-1160	

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		V. BELLAS et al.; "First Results on the Lithographic Evaluation of New POSS Containing 157nm Photoresists"; POSS Nanotechnology Conference 2002; September 2002; 6 pages.	
		JUNCHAO HUANG et al.; "Preparation and Properties of Polyimide-POSS Nanocomposites"; POSS Nanotechnology Conference 2002; September 2002; 6 pages.	

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Sheet 8	of 11	Attorney Docket Number	1301-1160

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		BRIAN MOORE et al.; "POSS Polystyrene Copolymers Reactivity and Control"; POSS Nanotechnology Conference 2002; September 2002; 12 pages.	
		MICHAEL T. HAY et al.; "Synthesis and Characterization of a Novel Iron (III) Silsesquioxane Compound"; POSS Nanotechnology Conference 2002; September 2002; 6 pages.	
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